Scholars,

Read the opening paragraph, then skip to page 7. When you finish this chapter, go to http://utpressnews.blogspot.com/2018/10/q-with-gerardo-otero-about-his-book.html and read the interview w/ the author.

Introduction

OBESITY AND THE NEOLIBERAL DIET

One of the principal puzzles in agrarian and food studies since the late 1990s has been the so-called obesity epidemic observed by US and World Health Organization (WHO) officials. Close to one billion people continue to face the challenge of not having access to sufficient quantities of food; they are food insecure in terms of a quantitative modality. But a larger and growing number now face the prospect of accessing mostly energy-dense foods that are nutritionally compromised. This is a new form of food insecurity that has less to do with quantity and more with quality. In other words, not all calories are made equal. Energy-dense foods or pseudo-foods are rich in fats and sugars that the human body may turn into adipose tissue or cholesterol. Michael Pollan (2006:91) calls energy-dense foods "the Western diet." Such edibles are particularly high in refined flour, saturated fat, sugars, and processed ingredients low in fiber (Popkin, Adair, and Ng 2012). Western diseases—obesity, type 2 diabetes, hypertension, stroke, and heart disease—have closely followed this diet (Popkin 2009). The obesity crisis and the rise of the industrial diet and its globalization are related to what I call "the neoliberal diet."

Okay. Now skip to page 7.

OBESITY

In 2000, the WHO warned about an "obesity epidemic." It followed a US official's use of that label a year earlier (Moss 2013). Since then, the scholarly and popular literature on food and weight has massively proliferated, with many observers giving advice to consumers on more healthful fare, such as Parisian food (Cohen 2013) and the Aztec diet (Arnot 2013). Most analysts, even many critical ones, contend that overweight and obesity can be modified if people pay attention to their good advice and make the right food choices, that is, "voting with forks" (Nestle 2013:372). The assumption is that what we eat is simply a matter of personal choice as part of a given lifestyle that may or may not include routinely engaging in physical activity and exercise.

Using the word "epidemic" for a condition that is not contagious is of course problematic. If obesity is not contagious, does causality then lie in individual food choices or in social structures of inequality and food production and distribution? Most policy and commentary regarding ways to stem overweight and obesity focus on interventions at the individual level (Christensen and Carpiano 2014; Koplan, Liverman, and Kraak 2005; Popkin 2009), a trend that exasperates sociologist Anthony Winson (2013). While Winson admires the rigor with which the medical and nutritional sciences have documented overweight and obesity, he regards the search for root causes as "pathetic" (2013:5). But without an adequate analysis of causal factors, it is practically impossible to outline solutions. Winson is particularly critical of what the likewise critical Julie Guthman (2011) labels "the energy-balance model." Winson summarizes this explanation as "too many nutrients going in and not enough energy expended"; the proposed solution, he says, is both "remarkably simplistic and entirely focused on individual responsibility: eat less and/or move more" (2013:6).

The individual focus raises the policy dilemma of whether to govern or not to govern (Vallgårda 2015), that is, to let individuals choose foods for themselves or steer populations toward foods by means of government policies (Calman 2008; Sparks 2011; Vallgårda 2015; Wiley, Berman, and Blanke 2013). Most scholars and governments primarily advocate interventions that aim to modify individual food consumption. If the issue were merely one of individual choice, then perhaps educational efforts and some regulation such as labeling and taxes intended to shape choice—"the conduct of conduct" (Vallgårda 2015)—would be in order. However, a Swedish study has confirmed results of earlier studies indicating that greater knowledge of food

and diet is not enough to counter inequality (Håkansson, Andersson, and Grafeldt 2015). Marion Nestle has made the same point regarding food education (2013:392–393).

Winson may be frustrated with the solutions proposed by nutrition scientists, but he is not much happier with the explanations and solutions by other social scientists. Much of the literature, he contends, is dominated by writers in the social constructivist strand of thought: they see the so-called obesity crisis as overblown, when it is predominantly a social construct (2013:7). This critique questions the validity of the body mass index (BMI) used by nutritionists and health scientists to assess overweight and obesity. The BMI is derived by dividing a person's weight in kilograms by height in meters and squaring the result. If the BMI exceeds 27.3 for a man or 28 for a woman, the person is regarded as overweight. Obesity starts at a BMI of 30. For social constructivists, the BMI is flawed and unreliable, as it could, for instance, classify a weight lifter as obese. While Winson (2013:7) and many other scholars acknowledge the BMI's limitations, they see these as hardly grounds to dismiss concerns about population-wide weight gains.

Guthman's critique of the energy-balance explanation for overweight and obesity also aims at the focus on individuals. Finding that model and individual-level solutions wanting, Guthman searches for systemic causes so that solutions can be better directed toward the social structure. Her perspective is influenced by political ecology and food studies; the latter finds a mutually determining relation between knowledge generation and social relations (2011:1–23).

One of the main points of Guthman's critique of epidemiological studies of overweight and obesity is their use of the BMI, which she considers a crude measure of adiposity, or fatty tissue, in the human body: "The BMI makes no allowances for variations in bone mass and density, or somatic difference more generally" (2011:28). So, at least for assessing individuals, the BMI is not a reliable measure of body fatness, as it may account for 60 to 75 percent of the variation (29). Furthermore, Guthman strongly objects to labeling obesity an epidemic, as this assumes that being fat is a disease. She contends that obesity is not a disease, "much less a vector-borne one. At best it is a symptom of a disease—or a condition associated with a disease" (32). Guthman is understandably concerned about the health aspects of obesity but also about issues of justice and oppression. This is a main concern of social constructionists. People tend to judge based on socially constructed notions of what is "normal"; even researchers comparing twenty-first-century embodiments of perceived normalcy see them as devia-

tions from historical norms (42). Guthman argues for rejecting the probabilistic and "natural" normativity and instead embracing human variation: "At least we must decenter thinness as the norm to which all should aspire" (43). She offers incisive questions about the measurement techniques used in epidemiological research and how they have led to the medicalization of obesity. Guthman does not deny that the US population has become fatter; rather, she questions how the discussion has proceeded around a notion that being thin and tall is normal. Difference is thus derided, possibly leading to discrimination and oppression.

New research into how to assess the health impacts of body fat has yielded a better measure than the BMI. The question is not so much whether people are overweight or obese but whether they have excess fat in their bodies. In fact, the prevalence of abdominal overfat has increased more quickly than the prevalence of obesity as defined by the BMI. Unlike BMI rates, which seem to be leveling or even declining in some rich countries, the rates of abdominal overfat have grown overall and more ominously, in children. The waist-to-height ratio (WHtR), therefore, "may be the single best clinical indicator of health risk as it can be used throughout childhood, into adult life, as well as throughout the world (in all ethnic groups)" (Maffetone, Rivera-Dominguez, and Laursen 2017:6). Given that comparative WHtR data are not yet available across time for my case study countries, I will use the BMI to test its correlation with the neoliberal diet risk (NDR) index. If anything, the BMI understates the prevalence of overweight and obesity.

In considering the health impacts of obesity, Guthman concedes that health is indeed important. But in her view, the rise of "healthism," directing individuals to consume fewer calories and exercise more, has led to pointing out "biological citizenship" and dumping the blame for obesity on individuals. Healthism also can entail "lifestylism," nutritionism, and other reductionisms that may lead to increased discipline and temperance (Guthman 2011:57–59). Guthman considers some questions inspired by Hannah Arendt: Who has the choice to have choice? Who has the right to have rights? These are good normative questions that point to structural issues as the main drivers of overweight and obesity in populations.

Guthman examines structural determinants of obesity, such as whether the neighborhood makes one fat: Is obesity a matter of the environment at large? She offers an excellent demystification of studies that aim to identify predictors of obesity such as those based on a structurally oriented "obesogenic environment" thesis. While the correlation of place with prevalence of obesity is established, the causality is inverted: people live in obesogenic

places because their class status does not allow them to do otherwise. Class and race are key factors in determining where one can live; trying to resolve "supply side" issues may simply result in such unintended consequences as the gentrification of poor areas, says Guthman (2011:87–90).

Going to the heart of the energy-balance model, Guthman offers revealing data: "From 1980 to 2008, the prevalence of overweight in children ages two to five increased from 5.0 percent to 10.4 percent; for those ages six to eleven, from 6.5 percent to 19.6 percent; and for those ages twelve to nineteen, from 5.0 percent to 19.1 percent" (2011:92). The mainstream hypothesis is that people consume too many calories relative to expenditure, with some adjustments for genetic predisposition. Guthman presents a strong counterargument to the energy-balance model based on "endocrine-disruptive chemicals" as the main culprit of obesity: "The endocrine system is typically thought to comprise the glands and pathways that emit hormones, for example, the thyroid, pituitary, and the hypothalamus glands. *Endocrine disruption* thus entails interference with the action of these hormones" (2011: 101, original emphasis). Guthman starts by discussing the complex genetic pathways to obesity, which appear as multiple and interactive (96). But she critiques the attempt to elevate genetic predisposition to explain obesity, as doing so may "reinscribe the idea that race is biological" (97).

For Guthman, a geographer, it is important to think of place and how neoliberalism has "embodied" its diet in people: "It is critical to think about the body as a site where the biological and the social constantly remake each other. . . . This is true even for *class, the most indisputably social of all categories of difference*" (2011:97, emphasis added). Different classes have had differentiated exposures to "labor regimes, toxins, health care, diseases, nutrients and so forth" (98). Some of these exposures may involve intergenerational genetic changes through "epigenetic" effects that have been appreciated only since the 1990s. Epigenetics has to do with heritable changes in gene expression, that is, whether a specific gene is active, without necessarily changing the underlying DNA sequence. Similar BMI increases for black and white women, for instance, open the possibility of a shared source of change: class status (Guthman 2011:99). As Guthman puts it, endocrine-disruptive chemicals "can interfere with genetic expression in ways that permanently transform bodily form and function, and these changes can be passed on to offspring. Epigenetics could thus account for the genetic contribution of the abrupt increase in obesity" (102).

A downside of Guthman's argument on epigenetics is that she simply denies—without evidence—that people are eating more: "Empirically, the

presumption that since 1980 people have been taking in more calories relative to those they expend has simply not been demonstrated" (2011:93). But data from FAOSTAT, the statistical database of the UN Food and Agriculture Organization (FAO), indicate that average per capita daily food caloric consumption in the United States was 3,178 kilocalories in 1980, reached a peak of 3,828 kilocalories in 2005, then declined to 3,682 kilocalories by 2013 (FAOSTAT 2017a). This represents a 16 percent increase between 1980 and 2013. Unless greater caloric consumption is compensated by more height, the BMI will increase.

Guthman helpfully points to environmental toxins that act as obesogens, but in vigorously seeking to discredit the energy-balance model, she falsely denies that the available evidence demonstrates an increase in dietary-energy consumption. Although she falters in studying obesity and social justice, probably because of the influence she has accepted from social constructionism, her structural explanations are welcome.

The most obvious reasons for the success of processed foods are that they are cheap and palatable for consumers and highly profitable for distributors. Winson refers to the business advantage by using the concept of "differential profit": "Where foodstuffs are very highly commoditized, some food and beverage products attract higher returns, or profits, for their sellers than others" (2013:190). PepsiCo's Frito-Lay products represented only 1 percent of US supermarket sales in 1998 but accounted for about 11 percent of operating profits and 40 percent of profit growth for the average supermarket in the same year (Winson 2013:191). Still, Michael Moss finds, industrial food can be sold very cheaply to final consumers: "The average kid who walked through the doors of these stores [in 2012] . . . scooped up chips, candy, and a sugary drink that came to 360 calories—all for just $1.06" (2013:343). A former executive of Pillsbury admits, "We're hooked on inexpensive food, just like we're hooked on cheap energy. . . . It costs more money to eat fresher, healthier foods. And so, there is a huge economic issue involved in the obesity problem. It falls most heavily on those who have the fewest resources and probably the least understanding or knowledge of what they are doing" (James Behnke, cited in Moss 2013:341). The 2008 financial crisis proved to be a boon for large parts of the food industry, "as shoppers pinching their pennies find it easier to buy soda, snacks and frozen entrees than more costly groceries, like fresh fruits and vegetables" (Moss 2013:108n). While there is no scientific consensus on the matter, a growing literature documents the addictive nature of sugar and the many foods with added sugar. Nora Volkow, who directed the National Institute on Drug Abuse, says that "pro-

cessed sugar in certain individuals produces compulsive patterns of intake" and that overeating is as difficult to overcome as some drug addictions (in Moss 2013:342).

Thus, if larger social-structural and political forces are at work, among them inequality and agricultural subsidies, the point of intervention will be quite different. It takes a societal actor like the state to modify which agricultural products become the raw materials that shape food choices in the first place. I argue that social structure and not individual choice is the locus where interventions should be made. The main foci should be ameliorating social inequality and reshaping the system of agrifood production.

The individual consumption focus has been causally articulated by the UN Special Rapporteur on the Right to Food as follows: "The food we eat determines how we produce food" (De Schutter 2009:11). Many observers in critical food studies, including Pollan and Nestle, have followed the same view of taking the individual as the main agent or point of intervention to modify eating "one meal at a time" or by "voting with your fork." This is an illusion.

In this book, I suggest a different possibility about causality and points of intervention. In general, structural change in food choices will require broad policy change as a needed ingredient. I argue that food choices are structurally conditioned by income and wealth inequality and that we eat what oligopolistic food producers and distributors have on offer. The roots of social inequality are varied and include class, gender, and racial/ethnic constructions of difference. Income inequality in particular has been growing in the United States and other nations since the 1980s, which coincides with the neoliberal turn in the development model. Given data availability, I examine primarily income inequality and how it affects food consumption choices.

Guthman makes the point forcefully against the individual focus that is so prevalent in the literature: "I don't harbor the fantasy that individual, yuppified, organic, slow food consumption choices are the vehicles to move toward a more just and ecological way of producing and consuming food. To the contrary, I think that structures of inequality must necessarily be addressed so that others may eat well" (2007b:263). Therefore, to stem obesity, state interventions need to refocus on reducing social inequality and the societal determinants of food production and distribution.

Income inequality as well as food production and distribution are in turn shaped or facilitated by neoliberal state intervention. There is an intrinsic hypocrisy in wealthy nations, especially the United States, preaching free trade and keeping the state from intervening in the economy while giving

agricultural subsidies. At the same time, many developing nations have been pressured to adopt policy recommendations of the International Monetary Fund that are meant to keep state intervention from subsidizing agriculture, while the World Bank promotes so-called nontraditional agricultural exports so those nations' foreign debts can be paid (Robinson 2008).

Reforming these structures could allow people to have affordable nutritional choices that are ecologically sustainable. Transcending individualistic and consumption-oriented approaches will help us appreciate that the state under bottom-up pressure from social movements is best positioned to implement change when it comes to food "choices" and production. Throughout the book, I use "the state" in a strict sense, to refer to what Antonio Gramsci (1971) calls "political society," the sphere of domination or the institutions of government. But Gramsci's expanded state also includes civil society, the sphere of hegemony or consent made up by private associations, unions, social movements, the family, churches, and so forth. The progressive sectors of civil society must mobilize to exert pressure on the state for it to become a societal actor in the wider public interest.

skip this paragraph

THE NEOLIBERAL DIET DEFINED

I set out to uncover the socioeconomic and political forces behind the production of processed, energy-dense foods that largely make up the neoliberal diet. Such foods were originally developed in the United States in the 1940s. It should be clarified that some foods like nuts and dried fruits also qualify as "energy dense" based on the calories per gram they contain, but I use the term primarily regarding processed foods. Covering this diet in 1998, a documentary from the PBS program *Frontline* is titled *Fat*. One snippet features Walter Willett, then chair of Harvard's Department of Nutrition, pointing the finger at food companies as the main culprits for the new health impacts of industrially processed food: "The transition of food to being an industrial product really has been a fundamental problem. . . . First, the actual processing has stripped away the nutritional value of the food. Most of the grains have been converted to starches. We have sugar in concentrated form, and many of the fats have been concentrated and then, worst of all, hydrogenated, which creates trans-fatty acids with very adverse effects on health" (in PBS 1998).

At least a few insiders in the food industry are well aware of the industry's role in promoting an unhealthful diet. Speaking to prominent food industry executives in 1999, Michael Mudd, a major adviser to Kraft's chief executive officer, warned them about the problem of child obesity. By that time half of

American adults were already considered overweight, and nearly a quarter—forty million—could be clinically defined as obese (Moss 2013:xvi). The US Department of Agriculture (USDA) promoted what it deemed healthful eating through its food pyramid, with grains at the base and far smaller quantities of sweets and fat squeezed into the top. Mudd told executives they were promoting "the *opposite* habits." He said, "We cannot pretend food isn't part of the obesity problem. No credible expert will attribute the rise in obesity solely to decreased physical activity" (in Moss 2013:xvii, emphasis by Moss). Through massive marketing campaigns, Nestle has argued, "the food industry changed society in ways that encourage us to eat more food, more often, in more places" (2013:xiv). Companies have gone to such lengths to defend their right to market industrial food that they even invoke their "First Amendment [free speech] right to market to children and to self-regulate rather than be regulated by government" (Nestle 2013:397).

Notably, ultraprocessed food has grown increasingly common since the 1970s. A 2012 study based on a 2001 national-level representative sample of households in Canada shows that almost two thirds (61.7 percent) of dietary energy came from ultraprocessed foods. This diet exceeds the World Health Organization's "upper limits for fat, saturated fat, free sugars and salt density, with less fibre than recommended" (Moubarac et al. 2012:2240).

A study of seventy-nine countries of varying income levels reveals several trends about the consumption of ultraprocessed foods. First, their consumption accounted for well over 50 percent of dietary energy in such high-income countries as Canada and the United States and more than 25 percent in upper-middle-income countries such as Brazil (Monteiro et al. 2013). Second, while the consumption of some ultraprocessed foods like soft drinks may have plateaued or peaked in high-income countries, the rate of increase in consumption in upper-middle-income countries was faster. These data confirm that the most processed components of the neoliberal diet are becoming globalized by a small, oligopolistic group of food-manufacturing multinational corporations (Monteiro et al. 2013; Popkin and Hawkes 2016).

There is thus the issue of intense concentration of market power by agrifood producers and distributors (P. Howard 2016). In the early 1970s, chickens were raised by thousands of farmers who supplied thousands of local and regional plants throughout the United States. In the twenty-first century, Nestle reports, "just a few gigantic corporations control every aspect of chicken production, from egg to grocery store" (2010:44). The concentration no doubt closely parallels the worldwide growth in chicken production that Tony Weis describes: "Chickens accounted for almost 53 billion of the more than 60 billion animals slaughtered in 2009, in comparison to 1.3 billion pigs

TABLE I.1. US and world changes in poultry meat production, 1961–2014, by animals slaughtered

	1961	1983	2014	% CHANGE 1961–1983	% CHANGE 1983–2014	% CHANGE 1961–2014
USA	2,366,872	4,496,170	8,938,222	90	99	278
World	7,014,581	21,534,133	66,234,895	207	208	844

Source: Constructed with data from FAOSTAT 2017b.

and 300 million cattle" (2013a:70). Meat can be regarded as one of the main processed foods of the neoliberal food regime, and the numbers involved are staggering, as Weis has shown:

> The average person on earth consumed 42 kg of meat in 2009, almost double the per capita world average in 1961 (23 kg), along with twice the eggs (from 5 to 10 kg). This transformation must also be set against the fact that human population leapt from three to seven billion over this time, which translates into a four-fold increase in world meat and egg production in a mere half-century. Amidst rising volumes, the relative share of total meat production that is internationally traded has also crept steadily upwards over the past century, from 5 to 13 percent. (2013a:67)

Meat production for export has expanded even in countries with food insecurity such as India, the leading exporter of beef (Winders 2017:157). Feeding those who suffer from hunger, Bill Winders points out (2017), is generally not as profitable as exporting to wealthy markets. By my calculation with data from FAOSTAT, as shown in table I.1, poultry meat increased the most in the United States and worldwide, even though meat from sheep and goats still was the meat most consumed in the world. Increases in meat consumption result from population growth but also from greater per capita consumption.

Behind the production of meat are the main raw materials to produce it: soybeans and corn, usually transgenic. The expansion in global meat production increased the demand for feed grains, as supply management policies were being phased out in the United States (Winders 2017). As a policy, the main goal of supply management was to "reduce production and raise prices by paying farmers to limit their production" (Winders 2017:37). During the 1920s, supply management had several stakeholders whose interests did not

necessarily align. Hence it failed repeatedly, even when the government's goal was to support farmers. The government purchased surpluses to sell on the international market at world prices, and it protected domestic prices for farmers by imposing tariffs on imports even though consumers could be affected (Winders 2017:37). It was only in the Franklin D. Roosevelt administration that enough pressure from below generated the political will at the top to shape a proper supply management policy to defend farmers and working-class consumers; a coalition of the Left pushed government in the direction of protecting the popular sectors nationally (Winders 2017: 38). Internationally, however, such arrangements led to a surplus regime by which the US government tried to systematically dispose of grains on the world market in the 1940s and later; Winders has labeled this "the US food regime" (2009, 2012). The term may be appropriate in highlighting the nation whose policies have had a heavily determining role in the overall dynamic of capital accumulation. US policy has had that effect in the world economy, but other dynamics are in play as well.

Grains from the US regime of the 1940s to 1980s were destined largely for livestock feed rather than direct human consumption. The push to produce soybeans and corn fostered production of genetically modified (GM) or transgenic seeds by the 1990s. The US regime ultimately resulted in more demand for grains, greater supply, and the need to dispose of surpluses. With trade liberalization in the 1980s into the 1990s, there was broader adoption of GM seeds. By 2014 between 80 percent and 94 percent of US agricultural land surface was devoted to transgenic crops—soybeans, corn, and cotton (Winders 2017:113). Production on this technological basis grew 100 percent for maize and 200 percent for soybeans (Winders 2017:134). Crops of coarse grains, soybeans, and rapeseed (canola) grown for livestock took up one third of the world's harvested land area in 2009 (Schneider 2014). The global area in feed crops has expanded 30 percent since the 1960s; the area in maize has doubled, the area in soy has quadrupled, and the diversion of maize and soy for livestock feed has doubled (Schneider 2014). China imported 69 million tons of soybeans in 2013; that was 64 percent of global soy trade, mostly from Brazil and the United States. Imported soybeans accounted for 85 percent of domestic consumption, primarily for livestock feed, that year in China (Oliveira and Schneider 2014:5). Markets for rice and wheat are much more competitive than for feed grains and less subject to genetic modification, which farmers have resisted (Winders 2017).

Industry concentration, as calculated by economists, is the degree of competitiveness of a given industry. In standard economic theory, competitive industries offer lower prices; conversely, in more concentrated industries

prices are skewed in favor of businesses and toward a disadvantage to consumers. A common indicator of concentration is the CR4, the concentration ratio or market share controlled by the top four firms in an industry. As Philip H. Howard (2016:7) puts it, "When four firms control 40 percent or 50 percent of the market it is no longer competitive." Howard's 2016 study of concentration in the food industry offers the CR4 for numerous sectors of the industry; I present a selection of them in table I.2.

Concentration in the agrifood industry is more pronounced than in most other economic sectors (P. Howard 2016). A study reported in *The Economist* found that of more than nine hundred economic sectors, two thirds were more concentrated in 2012 than in 1997: "The weighted average [market] share of the total held by the leading four firms in each sector rose from 26% to 32%" (O'Sullivan 2016:15). A traditional yardstick for excessive industry concentration, or oligopoly, is when four firms control 40 percent or more of the market. For agribusiness, Pollan has found "that percentage is exceeded in beef slaughter (82 percent of steers and heifers), chicken processing (53 percent), corn and soy processing (roughly 85 percent), pesticides (62 percent) and seeds (58 percent)" (2016:44). Furthermore, such concentration is leading to yet more concentration, which worsens inequality. Even the conservative London-based newsweekly *The Economist* (2016) warns, "High profits can deepen inequality in various ways. The pool of income to be split among employees could be squeezed. Consumers might pay too much for goods. In a market the size of America's prices should be lower than in other industrialised economies."

The problem is that the usual mechanisms of competition contained in economics books are no longer working. Adam Smith's invisible hand was presumed to lead new entrepreneurs into sectors that seem profitable and stabilize excessive profits. But in neoliberal capitalism, investment opportunities can arise precisely in markets that are highly concentrated and not competitive. In the same article in *The Economist* (2016), titled "Too Much of a Good Thing," two captains of US industry and finance advise as much: "Jack Welch, the boss of General Electric for two decades at the end of the 20th century, advised companies to get out of markets which they did not dominate. Warren Buffett, the 21st century's best-known investor, extols firms that have a 'moat' around them—a barrier that offers stability and pricing power." This general context of food production greatly shapes the configuration of what people eat, of what is most and least accessible, leading to class-differentiated diets.

The neoliberal diet in my usage consists of the globalization of the US

TABLE 1.2. Concentration ratios (CR4) for various years between 2011 and 2014 by the top four firms in food industry markets

FIRM	MARKET SHARE %	FIRM	MARKET SHARE %
US grocery market		*US fast food*	
Walmart	33	McDonald's	18.6
Kroger	9	Yum! (KFC, Pizza Hut, Taco Bell, etc.)	12.6
Safeway	5	Doctor's Associates (Subway)	6.7
Supervalu	4	Wendy's	4.8
	CR4: 51 (p. 20)		CR4: 42.7 (p. 31)
US pork slaughtering		*US beer, 2012*	
Smithfield-Shuanghui	26	Anheuser-Busch InBev	46.4
Tyson	17	MillerCoors	27.6
JBS Swift	11	Crown Imports	5.8
Cargill	9	Heineken USA	14.0
	CR4: 63 (p. 83)		CR4: 83.8 (p. 55)
US bagged salad		*Soybean processors*	
Chiquita/Fresh Express	32.2	Bunge	25.5
Dole	22.2	ADM	21.4
Earthbound Farm	5.8	Cargill	21.2
Ready Pac	4.4	Ag Processing	11.7
	CR4: 64.6 (p. 66)		CR4: 79.8 (p. 74)
Global seeds		*Global pesticides*	
Monsanto (USA)	26	Syngenta (Switzerland)	23.1
DuPont Pioneer (USA)	18.2	Bayer CropScience (Germany)	17.1
Syngenta (Switzerland)	9.2	BASF (Germany)	12.3
Vilmorin/Groupe Limagrain (France)	4.8	Dow AgriSciences (USA)	9.6
	CR4: 58.2 (p. 107)		CR4: 62.1 (p. 107)

Source: Constructed with data compiled from several sources in P. Howard 2016. Page numbers for each industry are given in parenthesis, after the corresponding CR4.

industrial diet. I argue that larger social forces are shaping our food choices; one is accessibility. Not everyone can afford the fruits and vegetables or the time to prepare the foods that are generally regarded as the most healthful. The question of how the neoliberal diet interacts with growing inequality needs to be addressed in each of several countries I discuss and among countries globally. To specify the effects of neoliberal globalism, I give special attention to the international division of labor and trade in food and agriculture between the United States and Mexico, as this type of relation is becoming generalized on a global scale. I thus use the US-Mexico trade relation as the model of neoliberal globalism. The North American Free Trade Agreement (NAFTA) is the mechanism through which Mexico deepened its integration into the North American economy, including Canada. Neoliberal globalism, as ideology and practice, has expanded its reach through several other legal instruments such as the World Trade Organization.

Researchers in North Carolina projected that as of 23 May 2007, for the first time in history, the world's population would be more urban than rural (*ScienceDaily* 2007). Although some food is produced in cities, most of it continues to be produced in the countryside. Food is the most "intimate commodity" (Winson 1992), in that our reproduction as living beings depends on ingesting it and specifically on what we consume. Given market concentration, however, the great majority of humans have lost control over the production of food. A double issue emerges from this condition; one is the near-total lack of control over food production by the vast majority of the population, and the second is that only a very small minority of affluent people have the luxury of actually making choices of what to eat regardless of price. Most people are constrained by their budgets and/or time to eat what they can afford; the most accessible are energy-dense foods that can make them fat (Darmon and Drewnowski 2015).

In whose favor does the state intervene in the era of neoliberal globalism? By most accounts, state regulation (if any) and intervention such as subsidies are meant primarily to enhance the profitability of corporations and rarely to protect citizens. The problem starts in the structure of subsidies that shape agricultural production in the United States and the extent of influence that its agricultural and dietary models have in the world. It is in this nation that modern agriculture and the industrial diet were born and from which they have been diffused throughout the world in the form of the neoliberal diet. The crux of food import dependency is the combination of practicing subsidies and protectionism in the United States and other rich countries with prying open markets in developing countries (Friedmann 1982). Such a pro-

cess has to do with the larger forces at work in the neoliberal food regime: the set of rules and regulations that account for capital accumulation in agriculture and the food industry. Because these are deeply entrenched structures, it will take social movements to change the character of state intervention in pursuit of the public interest in more healthful food.

Critical food scholars like Pollan (2006, 2008) and Nestle (2006, 2013) and journalists including Andrew Martin (2015), Moss (2013), and Michele Simon (2006) have amply documented how food companies resist any form of state regulation. Instead, "Big Food" promotes self-regulating and leaving it to consumers to decide what is best for them. Any state intervention is portrayed as a manifestation of the "nanny state" and a failure of individual responsibility. The nanny state is presumed to be the converse of individual freedom typical in any liberal democracy. But it so happens that food producers dominate the US agricultural lobby, shaping (non)regulation, support, and subsidies. Although hundreds of businesses are within the food industry, from producers to retailers, they jointly and individually lobby to promote policies that favor their profitability. The US agribusiness lobby spent about $65 million in 2011–2012; hence the interests of agricultural corporations remain heavily represented (Spark 2014:30).

Critical food scholars have done a fantastic job of uncovering how the food industry, to increase sales, promotes flavor at the expense of nutrition. They might thus expect that shaming food companies could enhance the business fashion of becoming good corporate citizens and assuming some corporate social responsibility. Even Walmart's CEO has advocated a "triple bottom line" of social, environmental, and financial aspects as the future of long-term capitalism (McLaughlin and McMillon 2015). This is a fine and respectable aspirational goal. But the reality about capitalist firms competing with each other is that most of them are just doing their jobs for the one bottom line by which they can live or die: maximizing profits in the short term, presumably within legal limits. A study by Rob Moodie and colleagues (2013) considers the rise in sales and promotion of tobacco, alcohol, and ultraprocessed foods globally in the context of rising rates of noncommunicable diseases. The authors address industry self-regulation and ask if transnational corporations, as major drivers of such sales and promotion, should play any role in prevention and control. They examine evidence on the effectiveness, or ineffectiveness, of the common reliance on industry self-regulation or public-private partnerships and of public regulation and market intervention by the state. The authors' resounding response is that "public regulation and market intervention are the only evidence-based

mechanisms to prevent harm caused by the unhealthy commodity industries" (Moodie et al. 2013:670).

THE FOOD SYSTEM

We have a double-headed issue here. On one hand there is great inequality that leaves a large majority of the population unable to afford quality, healthful food; on the other hand the food industry has tremendous legal laxity to do as it pleases to maximize profits. By "food industry" I mean not only the producers and distributors of food but also those in the prior, agricultural phase of crop production. Much of the neoliberal diet can ultimately be traced to transgenic crops, the products of genetic engineering such as corn and soybeans, the most subsidized US crops (Pollan 2008:117). Most centrally, though, these crops are subsidized because powerful lobby groups get immense profits from them (Baines 2015; Winders 2009a, b). Agribusiness technology, agricultural policy, and agrifood processing are all inextricably linked in the industrial production of the food "choices" in the neoliberal diet. Ironically, most of the subsidized crops are not even produced for direct human consumption. Rather, they are used to produce livestock or processed food, as is high-fructose corn syrup.

I have examined diet in the larger framework of the neoliberal food regime (Otero 2012, 2013; Otero, Pechlaner, and Gürcan 2013; Pechlaner and Otero 2008, 2010) and the rise of the modern agricultural paradigm (Otero 2008). The food system has been changing around the world rapidly since the 1980s, reflecting changes that started in the United States in the early twentieth century. Central to these changes, called a "revolution" by Thomas Reardon and C. Peter Timmer (2012), is the increasing contribution of industrial processes that food is undergoing. In a simplified form, the food system can be represented as involving the following process:

> Inputs ⟶ farming ⟶ wholesale buying ⟶ industrial processing ⟶ retail ⟶ consumption

Most of the major players in the world's top food and beverage processing firms are headquartered in the United States. In 2015 the ten largest US companies in this sector were, in order of largest sales, PepsiCo, Tyson Foods, Nestlé, JBS USA, Coca-Cola Co., Anheuser-Busch InBev, ConAgra Foods, Kraft Foods, Smithfield Foods Inc., and General Mills. Included in the top twenty are Kellogg Co., Cargill Inc., and Bimbo Bakeries USA, a Mexican

multinational corporation (Food Processing 2015). Chandrasekaran and colleagues (2013) present data on Canada.

On a world level the market share of the ten top-selling food processors amounted to 28 percent of the total volume in 2009. With profits of around 15 percent to 20 percent for drink producers, the profit margins are among the highest in the food chain. The large food corporations make their enormous profits particularly by focusing on the expanding middle classes in emerging economies like those of Brazil, China, India, and Indonesia as well as the market segment of expensive branded goods. During the financial crisis of 2007–2009, food processors grew mainly through company acquisitions (Econexus and Berne-Declaration 2013:15). In Brazil, one of the major case studies I address in this book, the food industry's share of gross domestic product (GDP) has remained stable at around 10 percent. But the processing industry's share increased from 16.9 percent in 2004 to 20.2 percent in 2014 (Gomes 2015:2). Industrial food processing is an integral part of the food system. Located in the middle of the food system, food processing as an area of influence reaches other actors in several ways. Soybean processing companies fund farmers by financing the technological input packages, including transgenic seeds, in exchange for their products (Gomes 2015:2; Lapegna 2016).

A substantial and rising share of food in developing countries undergoes some degree of processing. The share of packaged food (a subset of all processed food) in food expenditures is roughly 7 percent in low-income countries, 30 percent in lower-middle-income countries, and 45 percent in upper-middle-income countries. The share of grains in the value added of processed foods varies by countries' income levels as well, but inversely; it is approximately 20 percent in lower-income countries and drops to 15 percent in upper-middle-income countries and lower-middle-income countries. The share of dairy climbs from 7 percent in lower-income countries to 10 to 13 percent in lower- and upper-middle-income countries. Processed meats, fish, fruits, vegetables, fats, and baked goods and noodles make up the rest of the processed food sector value added (Reardon and Timmer 2012:241–242). By 2000 Nestlé had a market share of 61 percent in Latin America for many packaged foods (confectionary, soups, pet food, baby food, dairy, and baked goods) and a market share of 26 percent in eastern Europe. In Brazil that share was 83 percent, while in the Philippines it was 37 percent. Unilever had similar dominance in other markets. Its market share in a set of packaged goods was 38 percent in Poland, 43 percent in Argentina, 37 percent in Indonesia, and 47 percent in South Africa (Reardon and Timmer 2012:452).

On the final link to consumers, when there is a single power as large as Walmart connecting food processors and food consumers, individual consumers are no longer the food-manufacturing industry's most important customer (Wenonah Hauter, cited in Spark 2014:29). The rapid growth of the retail sector globally is resulting in major dietary changes that will affect the food insecure as well as the food secure across rural and urban areas in lower- and middle-income countries. In Mexico City processed foods already make up about 58 percent of food-caloric consumption, compared with 30 percent in China (Popkin 2014).

Since the 1990s there has been heavy concentration of food processors as megamergers have resulted in their consolidation. Arlene Spark (2014) reports that the top four pork processors—Smithfield, Tyson Foods, Swift (JBS–Swift), and Excel (Cargill Meat Solutions)—slaughtered 64 percent of the pork in the United States. Similarly, Cargill, Tyson Foods, JBS, and National Beef slaughtered 81 percent of the beef; more than half of broiler chickens were slaughtered by Tyson Foods, Pilgrim's Pride Corporation, Perdue Farms, and Sanderson Farms (Spark 2014:56). Smithfield is the world's largest pork producer and controls all production stages from growing to slaughtering swine. Archer Daniels Midland is the largest corn producer and processor in the world and the leader in manufacturing high-fructose corn syrup, most of it produced from transgenic corn. These examples demonstrate the big business involved in food processing and the global reach of the corporations. Although it may seem that the variety of food products offered to consumers continues to increase, the reality is that most food is manufactured by a small number of companies.

In terms of value added resulting from a manufacturing process, the food and beverages industries are responsible for the largest shares of GDP in several of the emerging economies I analyze in this book, namely in the BRICS—Brazil, Russia, India, China, and South Africa. If we look at the full agribusiness chains, agriculture, auxiliary industries, and research and development services, we see that the national impact of food and beverage industries is even larger. Ruth Rama (2015) notes that most of the foreign food and beverage affiliates located in the BRICS that year were owned by large companies based in the United States (41 percent), the European Union (27 percent), and Japan (17 percent). BRICS capital accounted for around 4 percent of these foreign food and beverages affiliates. The only country where the presence of EU affiliates surpassed that of US affiliates was Russia. In China, affiliates owned by Japanese companies amounted to 27 percent, considerably more than the 17 percent in the BRICS (Rama 2015:300–301). The most important recipient of foreign food affiliates is China, followed at some dis-

tance by Brazil. India, Russia, and South Africa each hosted less than 10 percent of the foreign food affiliates located in the BRICS. Data on the distribution of affiliates provide valuable information on the consolidated position of multinational food firms over the years (Rama 2015).

SOCIAL MOVEMENTS AND STATE INTERVENTION IN BRAZIL

Despite the dominance of oligopolies in the food industry, states can intervene to redirect food production in more equitable and healthful directions. To put some flesh on the production-focused and inequality-alleviating approach proposed here, I outline an example of state policies that were implemented from 2003 to 2016 in Brazil, a large, middle-income country. Brazil's national-level experience came during the Workers Party (Partido dos Trabalhadores, PT) administrations. This was an effort to accomplish just what the Walmart executives proposed (McLaughlin and McMillon 2015): to strengthen smallholder farmers, promote ecological sustainability, and produce more healthful and accessible food for the poor. I must confess that I was hesitant to discuss the Brazilian case after the political events that led to President Dilma Rousseff's impeachment in 2016. Critical observers, including myself, consider the impeachment a coup d'état waged by the political Right based on legal technicalities. It was made possible by Brazil's coalitional electoral system; since their inception, the PT administrations were based on a fragile coalition with a right-of-center party. The coup underscores the fragility of Brazil's accomplishments in poverty reduction and food security, which may now be jeopardized. However, the Brazilian case shows that food systems and inequality are changeable through the political will of the state when it is nudged from below by social movements. One point should be clear, though: political outcomes regarding the food system and inequality are entirely contingent on the balance of social forces.

Two state policies that resulted from the PT's determination to reduce inequality and hunger were Bolsa Família (Family Allowance) and Fome Zero (Zero Hunger). The first program consists of cash transfers to poor families, conditional on sending their children to school; the second is intended to eliminate hunger by, among other measures, enhancing food provisioning at schools in coordination with smallholder farmers. The farmers, in many cases, are former beneficiaries of agrarian reform that resulted from social struggles led by the Movimento dos Trabalhadores Rurais sem Terra (MST, Movement of Landless Workers), the largest social movement in Latin America (Vergara-Camus 2014).

Bolsa Família has had positive effects on school enrollment and retention

rates of children as well as completion rates in elementary school (Glewwe and Kassouf 2012). But it is not clear whether expenditures on the program compensate for the increased wages of new workers, which do not seem to be higher than the costs of the program over time. The question needs more research for proper calculation, but another issue is that increased education could also result in lowering the wage premium of education in the long term. Overall, there is not a clear picture regarding income redistribution. Still, Davide Rasella and colleagues, in a study published in the medical journal *The Lancet*, find that Bolsa Família "can greatly contribute to a decrease in childhood mortality overall, and in particular for deaths attributable to poverty-related causes such as malnutrition and diarrhoea, in a large middle-income country such as Brazil" (Rasella, Aquino, et al. 2013:57).

In another study, Simone Bohn (2011) tests the hypothesis that the former president Luiz Inácio Lula da Silva's government used Bolsa Família as a clientelistic, vote-getting strategy. Bohn's study disconfirms this critical view of the PT and shows instead that "poor voters vote differently across regions; BF recipients were already Lula voters in 2002 and cast ballots for him during his reelection at the same rate as nonrecipients" (Bohn 2011:54). Other researchers have found a negative correlation between Bolsa Família and crime: "Schools with a higher number of students between ages 16 and 17 in 2006 experienced larger declines in crime in 2008 and 2009, when the CCT [conditional cash transfer] coverage was expanded to include these age groups" (Chioda, Mello, and Soares 2016:15).

In his book about Fome Zero, Aaron Ansell (2014) confirms that most studies he reviewed conclude that both Fome Zero and Bolsa Família contributed strongly to reducing inequality and hunger. In a critique from the Left co-authored by the MST's spokesperson Joao Pedro Stédile and Horacio Martins de Carvalho (2011), the authors argue that while hunger was reduced, its causes were not, so people continue to go hungry. Reflecting on the politics of these programs, other scholars have found two main accomplishments: the broadening of participation vertically and the communication across communities horizontally (Sonnino, Lozano Torres, and Schneider 2014). Broader participation from the bottom up enhances the likelihood of promoting progressive policies centered on food production and redistribution.

Hannah Wittman and Jennifer Blesh (2017) have studied the involvement of resource-poor farmers in the Brazilian state of Mato Grosso. Those farmers who participated in public procurement programs that promoted Fome Zero favorably evaluated the program's influence on their transition to agroecology and their household well-being. Agroecology is a type of agri-

cultural production that transcends the modern agricultural paradigm to make food production sustainable. A key point of agroecology is studying, designing, managing, and evaluating agricultural systems to make them productive while they also conserve resources. Interviews with actors along the food system reveal the potential for these programs to achieve goals related to food-system sustainability and social equity. Wittman and Blesh view this case as a model of innovation (within a highly unsustainable agricultural matrix) that can inform the scaling up of the larger and more ambitious food sovereignty program. Food sovereignty involves the right of peoples to healthful food that is culturally appropriate and ecologically sustainable. In the authors' view, much needs to be done to untangle critical bottlenecks in infrastructure and transaction costs before public food procurement programs can be considered a viable and scalable solution to global food crises. But these efforts are a start in articulating government procurement with smallholder farmers while addressing food inequality issues.

Finally, a study by Corinna Hawkes and collaborators (2016) describes the Brazilian government's policy efforts to coordinate school feeding and turn it into law in 2009 requiring a minimum of 30 percent of school food purchases from local family farmers. The authors evaluate the experience from 2009 to 2014 and conclude that about half the municipalities complied at least partially. Much research remains to be done on whether food sovereignty, strengthening of local farmers, and most importantly, nutrition goals have been met. Clearly, however, transcending the individual focus of intervention requires that social movements and the state as well as large supermarket chains collaborate on the mode of producing food and reducing income inequality.

These advancements are important, as they show how social movements from below can make their mark. But it is also necessary to put the optimism into perspective by assessing the antagonistic social forces. In Renata Motta's book *Social Mobilization, Global Capitalism, and Struggles over Food* (2016), she analyzes how the PT slowly capitulated to the *bancada ruralista*, the members of Brazil's Congress who are predominantly controlled by large-scale rural landholders. She shows how the governments of the PT, while providing food access to subaltern classes, did not change (and rather deepened) the neoliberal structures of food production in Brazil. With all its limitations, nonetheless, the Brazilian case shows that a change of focus into production and redistribution is possible, viable, and achievable.

Society's big challenge is thus to push for changes in state policies in a progressive direction. Whereas policies have primarily promoted the interests of large agribusiness corporations, the point now is to steer state inter-

vention toward promoting agricultural and food production that enhances public health. Such a shift requires nothing short of strong social movements from below, of the type that seems to be building to convince governments to fight climate change. Climate change is perhaps the biggest challenge for humanity, but overweight and obesity are issues that also threaten the reproduction of healthy human beings; the present generation of children may have lower life expectancies than their parents. In both cases, powerful socioeconomic and political forces must be confronted to fundamentally change their ways.

ORGANIZATION OF THIS BOOK

My overall analytical strategy in this book is to zoom in and out from theory into empirical evidence or from lower geographical scales into larger ones. The goal is to gain greater understanding of the structural forces at work in shaping food production and consumption, driven primarily by agribusiness multinationals (ABMs) originating in the United States. Chapter 1 sets up the analytical and theoretical parameters of the book, including the rise of the modern agricultural paradigm and the neoliberal food regime. I outline four main dynamic elements in this food regime: neoregulation, a new form of state intervention that facilitates the dominance of agribusiness multinationals; ABMs as the dominant economic actors, with strong competitive advantages over others; biotechnology as the key technological form in the neoliberal food regime; and supermarkets, which since the 1990s have gone global in gaining larger shares of the food distribution system.

Chapter 2 elaborates on the state-determined aspects of the neoliberal food regime. "Deregulation" has been a buzzword used by observers on the Right and the Left since the start of the neoliberal turn in the 1980s. I argue that in contrast to deregulation, the concept of neoregulation underpins the neoliberal food regime based on a specific form of state intervention that facilitates the domination of agribusiness multinationals, or ABMs. While state intervention has in fact resulted in a withdrawal of the state from direct action in the economy, it nevertheless continues to be a key actor. In the chapter I discuss how the US state promoted specific legislative innovations with the goal of entrenching the protection and private ownership of intellectual property rights. This was a condition for biotechnology companies to thrive in the global economy. Legislative changes from the neoliberal era represent neoregulation at the suprastate level and in Canada, the United States, and Mexico.

The debate on obesity in the United States between individual and structural perspectives is discussed in chapter 3. The question is whether addressing overweight and obesity involves primarily how individuals choose their food or what food is produced in the first place. Siding with the structural explanation of obesity, I offer a detailed analysis of the evolution of the US diet since 1961 based on macrodata from the UN's FAOSTAT database. I consult FAOSTAT mainly because it uses official information from most countries in the world. I present comparative data on countries in later chapters; FAO provides useful estimates calculated in the same way for all countries, making this single source the best for appreciating global agrifood trends. I then analyze income inequality and food consumption based on official US data from the Bureau of Labor Statistics Consumer Expenditure Survey for 1972–1973, 1984, 1994, 2004, and 2014. This analysis highlights divergent class diets by showing that upper-income classes can afford an increasing diversity of luxury foods (meats, fruits, and vegetables), while lower- and middle-income classes are exposed to energy-dense diets based on sugars and vegetable oils. Illustrated in figures, the analysis splits the US population into five income quintiles and shows how each 20 percent spends on various types of food. The conclusion is straightforward: lower-income classes have decreasing access to higher-quality foods, and higher-income classes' diets are more diversified and nutritious. The data confirm many studies linking socioeconomic status with overweight and obesity, but they are offered on a national scale for multiple years so that the tendency toward the neoliberal diet's class divergence becomes quite clear.

Chapter 4 moves out from the United States into the international division of labor in the NAFTA region as a model of what further globalization may look like. North America is the first world region to experience substantial economic integration of two advanced economies with a developing country that began well before the implementation of NAFTA. The question is to what extent Canada, Mexico, and the United States have converged toward similar diets or in what ways they have diverged, if at all. My core argument, which I demonstrate with empirical macrodata from FAOSTAT and the USDA, is that NAFTA nations have experienced a class-differentiated convergence roughly mimicking what has happened in the United States, where upper-income classes are accessing more diversified luxury foods while lower- and middle-income classes are seeing more energy-dense fare in their diets.

Looking into the one developing country of NAFTA, I ask in chapter 5 how Mexico's countryside was affected by NAFTA and neoliberal global-

ization and what the working conditions have been for displaced migrants in US and Canadian agriculture. Mexico's asymmetrical integration into the North American economy, combined with neoliberalism, had a detrimental impact on its food self-sufficiency and labor sovereignty. These processes resulted in substantially greater outmigration. The main argument is that food self-sufficiency is the condition for a nation to also enjoy labor sovereignty—a nation's ability to provide living wages for a majority of the population. Of the three NAFTA nations, Mexico is the least self-sufficient in food and hence the one that has economically expelled the highest proportion of migrants. While most migrants to Canada enter that country as part of state-sponsored guest worker programs, the lion's share of migrants going to the United States do so as unauthorized workers. This imbalance raises significant issues of labor rights, discrimination, and exclusion in the United States. An overview of migration debates and working conditions reveals the precarious nature of work in agriculture. A North American union with free labor mobility that might enhance working conditions for all seems like a distant solution to these issues. Hence, in the meantime it is indispensable that Mexico restore its labor sovereignty, which will also require regenerating its food self-sufficiency and its countryside.

Leaving the NAFTA region, in chapter 6 I expand the discussion to a set of emerging nations (Brazil, China, India, Mexico, and Turkey) in comparison with the two traditional agroexporting powers of North America—Canada and the United States. One of my main goals in this chapter is to empirically test an argument made by Philip McMichael, that countries in the North and South become "mutually dependent" in food (2009a:287). Using FAOSTAT data from 1985 onward, I introduce a required nuance into his statement by showing that countries with the most neoliberal policies are the ones that have become dependent on the importation of basic foods. The wholehearted adoption of the free trade mantra of neoliberal discourse has exposed developing countries to increasing their exports to and imports from wealthier nations. My proposition is that the emerging countries that have resisted all-out neoliberal reform since the 1980s have retained significant levels of food self-sufficiency. Mexico, which fully adopted neoliberalism, has become the most dependent. Canada and the United States, in contrast, have become only minimally dependent on the importation of some luxury foods, such as fresh fruits, vegetables, and alcoholic beverages. My conclusion is that trade in the neoliberal food regime has resulted in a mutual but uneven and combined dependency.

Using the structural insights from previous chapters, in chapter 7 I set

out to measure the risk of exposure to the neoliberal diet. I start with the acknowledgment that obesity is a complex factor that has multiple causes, including medical, genetic, and socioeconomic factors. Once I establish this multiple causality, I present the central socioeconomic causes that can be linked to the risk of exposure to energy-dense diets. The goal is to present a country-level index that measures this risk across time within each country and comparatively across countries. The neoliberal diet risk (NDR) index is a composite of five subindices. I offer NDR index measurements for eight emerging countries. Indonesia, Russia, and South Africa are added to those mentioned in chapter 6, plus Canada and the United States.

In the conclusion I wrap up the discussion on the neoliberal diet and its relation to obesity in theoretical and substantive terms. Because the socioeconomic causes of obesity lie well beyond individual choices, I outline the conditions for popular democratic empowerment to change those underlying causes. For better or worse, it will take much more than well-intended corporate or state policies from the top to modify the conditions for people as individuals to eat more healthful food. It will take social movements from the bottom up to change state policies that shift what is produced in agriculture. Social movements, however, are complex phenomena, and even those with popular grassroots constituencies do not necessarily have progressive or social justice goals. They may have complex relations with the state, which can easily co-opt and neutralize them. I look into such complexity, as concerted state policies will be needed to reduce or eliminate inequality so that healthful food becomes universally accessible.